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Corrections and Additions to the Observations of Sirius.

By S. W. Burnham, M.A.

In my paper on *Sirius* (*Monthly Notices*, April 1891), in the references to the various authorities on page 384 the name Eastman (*A.N.* 1526, 2678) should be changed to Engelmann, and Eastman should be added in another line with a reference to *Monthly Notices*, xxxviii. 360, and *A.N.* 1680. In the former are found his measures of 1878, given in the list of observations of that year on page 382 of my paper. The angle and distance of the companion are derived from observations with the Meridian Circle on three nights. The measures by this observer for 1867 are taken from the *Washington Observations* of that year, and not from *A.N.* 1680, where a slightly different value is given.

In the *Memoirs of the Royal Astronomical Society*, xxxvi. 38, observations of Lassell and Marth, there are some measures of the angle of the companion which are not included in the list I have given. It is not clear by whom the measures were really made. The mean result of three nights for the position-angle is 76°·8 (1865·10).

I am indebted to M. Bigourdan, of the Observatory of Paris, for having called my attention to the omission of the following measures :—

1872·21	66°·6	10″·69	Börgen	3*n*
1873·23	70·0	9·80	Börgen	1*n*
1873·23	66·3	10·42	Bruhns	1*n*
1880·18	46·7	9·92	Bigourdan	6–4*n*
1881·14	44·3	10·62	Bigourdan	5–3*n*
1882·13	42·4	9·76	Bigourdan	4–3*n*
1883·19	39·9	9·10	Bigourdan	2–1*n*
1884·17	35·3	8·79	Bigourdan	3–1*n*

The first three are found in *Pub. Universitats-Sternwarte zu Leipzig*, Heft, 1882. The observations of Bigourdan are printed in the *Annales de l'Observatoire de Paris* (Observations of 1883). I have never seen these volumes, and until this time was not aware of any such measures having been made. These are valuable observations, and should be added to the list I have given.

Mount Hamilton :
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A Note on some Photometric Experiments connected with the Application of the Law of limiting Apertures to small Object-glasses. By Edmund J. Spitta.

Whilst carrying out some experiments connected with the paper read before the Society in November last, certain doubtful and equivocal results immediately followed the application of a diaphragm to the telescope in use, and these were of so pronounced a character that the use of such means for reducing the intensity of the luminant had to be abandoned. It was known a doubt had always existed as to whether the intensity of a point of light viewed at the focus of a refracting telescope would, when photometrically tested, be found to vary as the square of the linear aperture of the object-glass; in other words, whether it was scientifically accurate or strictly philosophical, seeing its compound nature and its different mode of manufacture, to apply to an object-glass what is generally known as the law of limiting apertures.

Having, therefore, tested photometrically the different zones of this object-glass, and proved that the law (anyhow, with the telescope in question) was *not* applicable, it was thought it would be of interest, seeing the subject had not received any extended investigation, to photometrically test objectives of different makers' manufacture, both English and foreign. Although at present I have only been able to examine telescopes of small aperture, the results furnish me with figures so different, although all in the same direction, that it has been suggested it would be of interest to publish this preliminary note.

In the accompanying table the first column gives the distinguishing name of the object-glass examined; the second and third its aperture and focal length; whereas the fourth and last set forth the actual ratios photometrically obtained, when the aperture was lineally reduced to one-half and one-quarter respectively.

Table of Ratios photometrically obtained.

		inches.	inches.		
I.	Alvan Clark	6·5	93	.........$1 : \frac{1}{3{\cdot}35}$	......$1 : \frac{1}{14{\cdot}84}$
II.	Tulley	3·1875	46·5	.........$1 : \frac{1}{3{\cdot}3}$	......$1 : \frac{1}{7{\cdot}5}$
III.	Clerkenwell	2·625	42	.........$1 : \frac{1}{2{\cdot}63}$	......$1 : \frac{1}{11{\cdot}70}$
IV.	Watson	2·8125	41	.........$1 : \frac{1}{2{\cdot}11}$	......$1 : \frac{1}{15{\cdot}91}$
V.	Grubb	2·875	40·8	.........$1 : \frac{1}{2{\cdot}31}$	......$1 : \frac{1}{5{\cdot}07}$
VI.	A. and N.	2·375	24·75	.........$1 : \frac{1}{2{\cdot}47}$	......$1 : \frac{1}{8{\cdot}23}$

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